

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): John B. Bomar, Jr.; Scott D. Kidd; David J. Pancratz; Darrin A. Smith  
Assignee: Injury Sciences LLC  
Title: SYSTEM AND METHOD FOR ESTIMATING POST-COLLISION  
VEHICULAR VELOCITY CHANGES  
Serial No.: Unassigned Filing Date: Herewith  
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San Jose, California  
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BOX PATENT APPLICATION  
COMMISSIONER FOR PATENTS  
Washington, D. C. 20231

PRELIMINARY AMENDMENT

Dear Sir:

Prior to examining this patent application, please enter the following amendments.

AMENDMENTS

In The Claims

Please cancel claims 1 - 54 without prejudice or disclaimer of the subject matter recited therein.

Please add the following new claims:

- 1 55. A computer program product encoded in computer readable media, the  
2 computer program product comprising:  
3 first instructions, executable by a processor, for receiving input information regarding  
4 damaged vehicle components for at least one vehicle;  
5 second instructions, executable by the processor, for categorizing damage zones with  
6 respect to the location of the bumper of a vehicle;  
7 third instructions, executable by the processor, for categorizing at least one damaged  
8 vehicle component with respect to its location on the vehicle; and

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fourth instructions, executable by the processor, for estimating change in the vehicle's velocity as a result of a collision based on the damaged vehicle components information.

56. A computer system comprising:

a processor;

computer readable medium coupled to the processor;

first computer code, encoded in the computer readable medium and executable by the processor, for generating a first graphical user interface, wherein the first graphical user interface includes a first screen object representing a vehicle, a second screen object having data entry fields to allow entry of damaged vehicle components and repair/replace estimate information;

second computer code, encoded in the computer readable medium and executable by the processor, for generating a second graphical user interface, wherein the second graphical user interface includes a third screen object representing the vehicle, and a fourth screen object having data entry fields to allow entry of damaged vehicle components and visual damage information;

third computer code, encoded in the computer readable medium and executable by the processor, for rating damage severity of each vehicle component according to a set of predetermined rules;

fourth computer code, encoded in the computer readable medium and executable by the processor, to determine an overall damage rating for the vehicle based on rated damage to the vehicle components; and

fifth computer code, encoded in the computer readable medium and executable by the processor, to compare the overall damage rating for the vehicle to a crash test vehicle having an overall rating based on component damage ratings in accordance with the set of rules; and

sixth computer code, encoded in the computer readable medium and executable by the processor, for estimating change in the vehicle's velocity as a result of a collision, the change in the vehicle's velocity being based on the damaged vehicle components and the component damage ratings.

57. A computer-implemented method for estimating the change in velocity of a vehicle as a result of a collision, the method comprising:

(a) acquiring information regarding damaged components of at least one vehicle;

- 4 (b) assigning a damage rating to the at least one vehicle;
- 5 (c) determining whether to utilize crash test data for a first estimate of the change
- 6 in velocity for the at least one vehicle based at least partially on the damage
- 7 rating;
- 8 (d) determining a second estimate of the change in velocity for the at least one
- 9 vehicle based on conservation of momentum;
- 10 (e) determining a third estimate of the change in velocity for the at least one
- 11 vehicle based on deformation energy; and
- 12 (f) determining a final estimate of the change in velocity for the at least one
- 13 vehicle based on at least one of the first, second, and third estimates of the
- 14 change in velocity.

### REMARKS

In view of the new claims set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned.

EXPRESS MAIL LABEL NO:

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Respectfully submitted,



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